Section 4.3: Inflection Points

Another type of point that we are interested in is called an Inflection Point. These are points on the graph where the function is increasing or decreasing the fastest.

To find inflection points, the thing we are interested in is the Second Derivative of a function. This is the derivative of the derivative.

Example: Find the second derivative of $f(x)$

$$f(x) = x^3 - 3x^2 + x + 1$$

If we want to find the inflection point of $f(x)$, we need to find where $f''(x) = 0$
Example

The percentage of students graduating from highschool who went to college in South Carolina between 1982 and 1990 is given by the following function, where \( x \) is the number of years since 1990.

Find the Inflection Point of the function.

When is the function increasing most rapidly?

When is the function decreasing most rapidly?